

Nomenclature of the Hawaiian Akialoas and
Nukupuus (Aves: Drepanidini)

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Abstract.—The generic names *Hemignathus* Lichtenstein, 1839, and *Heterorhynchus* Lafresnaye, 1839, often used for the akialoas and the nukupuus, respectively, have the same type species (*Hemignathus lucidus*) so if the akialoas are given the status of a separate genus or subgenus, there is no generic-level name available for them. From a review of evidence concerning dates of publication we conclude that for nomenclatural purposes *Hemignathus* and *Heterorhynchus* were published simultaneously and *Hemignathus* has precedence according to the first reviser principle. The correct citation for the Oahu Akialoa is shown to be *Drepanis ellisiana* G. R. Gray (1859) rather than *Hemignathus lichtensteini* Wilson (1889). The name *Hemignathus stejnegeri* Wilson (1889) has priority over *H. procerus* Cabanis (1890) and is restored for the Kauai Akialoa. As no other name is available for akialoas, the new generic name *Akialoa* is proposed here (type species *Certhia obscura* Gmelin). The new names resulting from these nomenclatural changes are listed.

In the spectacular Hawaiian radiation of cardueline finches of the tribe Drepanidini, there are few more distinctive birds than the akialoas and nukupuus, which constitute the genus *Hemignathus* in the sense of Amadon (1950) and other authors, before and after him. The akialoas comprise five named taxa (one fossil) of medium-sized to large drepanidines with very long, decurved bills, the upper and lower parts of which are of nearly equal length (Fig. 1). Similar probing bills have evolved in various other groups of arboreal birds such as the babblers (*Xiphirhynchus*: Timaliidae), sunbirds (*Archnothera*: Nectariniidae), woodcreepers (*Campyloramphus*: Dendrocolaptidae), and the woodhoopoes (Phoeniculidae). In the nukupuus (four named taxa, including the akiapolau of Hawaii—*Heterorhynchus wilsoni* Rothschild), the upper jaw is likewise prolonged into a long, decurved probe, but the lower is much shorter (Fig. 1) and is used for pounding, prying, and pecking. The

bill morphology of nukupuus is unique and has no parallel among other birds.

Unfortunately, upon these birds are heaped some of the most convoluted nomenclatural problems, at both the generic and specific levels, to be found in any group of Hawaiian birds. Numerous authors, particularly in the earlier literature, maintained *Hemignathus* and *Heterorhynchus* as distinct genera (e.g., Rothschild 1893d, Bryan 1901). Since the revision of Amadon (1950), however, *Heterorhynchus* has usually been treated as a subgenus of *Hemignathus* (e.g., Greenway 1968, American Ornithologists' Union 1983). As we shall see, this is nomenclaturally incorrect, as both generic names have the same type species.

Pratt (1979) greatly expanded the genus *Hemignathus* by including in it the amakihis (*Loxops virens*, *L. parva*, and *L. sagittirostris* sensu Amadon 1950), which he placed in the subgenus *Viridonia* Rothschild 1892). At the same time he continued to

AKIALOAS

Genus *Akialoa*, new genus

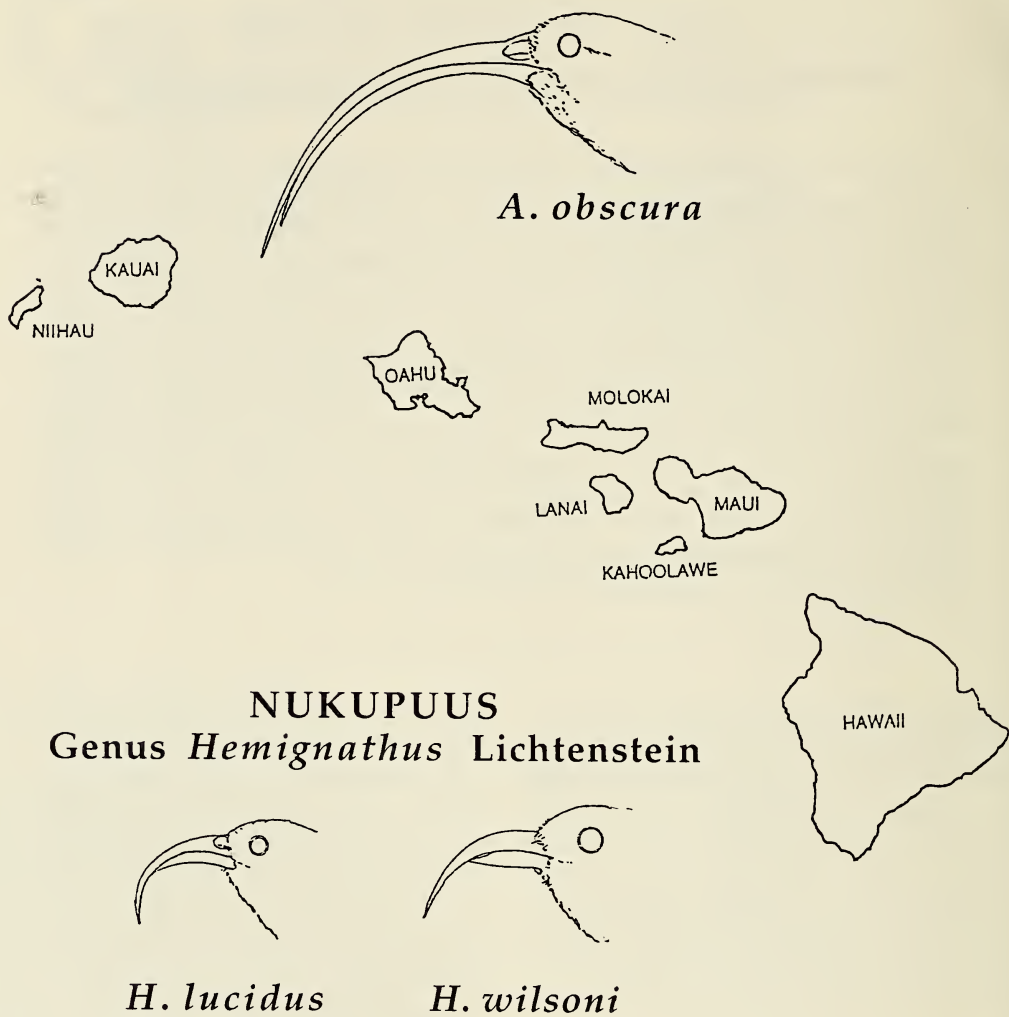


Fig. 1. Map of the Hawaiian Islands with outlines of head and bill (from Bryan 1901) of a representative akialoa (*Akialoa obscura* = *Hemignathus obscurus* auct.) and of the nukupuus *Hemignathus lucidus* and *H. wilsoni*.

recognize *Hemignathus* and *Heterorhynchus* as separate subgenera.

Although the portion of Pratt's dissertation pertaining to this problem remains unpublished, his nomenclature was adopted first by Berger (1981) and then by the American Ornithologists' Union (1983) in their Check-list, whereupon Pratt's treatment became entrenched among non-taxonomists

without any consideration having been given to its merits. This lumping created a many new combinations that had never appeared in the entire history of Hawaiian ornithology, including two homonyms of well-known species that had to be re-named (Pratt 1979a, 1979b, 1989; Olson & James 1988). Based on myology and osteology (Olson & James 1988), we would maintain the ama-

kihis, akialoas, and nukupuus as at least three genera, with the amakihis being referred to the genus *Loxops* Cabanis. This is supported by recent genetic studies, with the proviso that the the akialoas have not yet been analyzed and that the amakihis may need to be further split (R. Fleischer, pers. comm.) It is not our intention to deal with systematic problems here, but rather to clear up some long-festering points concerning the nomenclature that should be used for these birds by those who would place them in separate generic-level taxa.

The Type Species of *Hemignathus*

The genus *Hemignathus* as first proposed by Lichtenstein (1839) included both an akialoa and a nukupuu. The specimens available to him were all from Oahu, collected by Ferdinand Deppe (Olson & James 1994a). The akialoa he considered to be the same as that of Hawaii (*Certhia obscura* Gmelin), whereas the nukupuu was obviously a new species and was given the name *Hemignathus lucidus*.

Stejneger (1887:93, footnote) and Rothschild (1893d:87) each tried to argue that Lichtenstein's wording made *H. obscurus* the type of the genus *Hemignathus*. Mathews (1930) merely followed Rothschild, as apparently did Amadon (1950:168), who stated that the type was *Certhia obscura* by "original designation." The following is what Lichtenstein wrote (translation from Rothschild 1893d:87) that bears on the matter:

Latham describes in the genus *Certhia* a species from the Sandwich Islands, which struck him particularly in so far that the lower mandible was a quarter of an inch shorter than the upper. This species was included in the system under the name of *Certhia obscura*; but it is so distinct from all the different subgenera into which this group has rightly been divided, that one is forced to make a new genus for it, for which I propose the name [*Hemignathus*].

All this says is that of the previously recognized species assigned to *Certhia*, Lichtenstein considered *C. obscura* to differ to the extent that it must be put in another

genus. He did not say that *C. obscura* was the only species to be included in this genus, as indeed he also placed his new species *H. lucidus* in it, and he did not specifically indicate either species as the type. "Mention of a species as an example of a genus or subgenus" does not constitute a type designation (ICZN 1985:Article 67a). Shortly after Lichtenstein's publication, G. R. Gray (1841) clearly designated *H. lucidus* as the type of the genus *Hemignathus*. Except for the authors mentioned above, all other authorities appear to have accepted this designation (e.g., Sharpe 1885, Bryan & Greenway 1944, Greenway 1968, American Ornithologists' Union 1983).

In the meantime, another generic name pertinent to these birds appeared nearly simultaneously with Lichtenstein's when Lafresnaye (1839) described the Oahu Nukupuu from specimens brought back by the voyage of the *Venus* as *Mellithreptus* (s.g. [subgenus] *Heterorhynchus*) *olivaceus*. Although several subsequent authors were confused as to the identity of Lafresnaye's species *olivaceus*, and even used this name for the Akiapolaau (*Heterorhynchus wilsoni* Rothschild) of Hawaii, it was the same taxon as Lichtenstein's *lucidus* (Newton 1887, Bangs 1930).

The species question aside, the name *Heterorhynchus* was seized upon and used by most subsequent authors, either as a genus or a subgenus, to distinguish the nukupuus from the akialoas. Stejneger (1887:93) appears to be the first to have articulated this sentiment:

Generally this bird [the Kauai Akialoa] is referred to the same genus as *Hemignathus lucidus*, but with doubtful propriety I think. The bills in this group of birds have served as the chief character for the establishment of genera, and if we recognize more than one genus of Drepanine birds, the two species of *Heterorhynchus* with their unique bills should certainly stand alone.

Virtually all authors since have maintained the akialoas and nukupuus as distinct genera or subgenera, under the names

Hemignathus and *Heterorhynchus*, respectively, while ignoring the fact that these generic-level taxa have the same type species.

A half-century ago, Bryan & Greenway (1944:128), who merged the two groups, succinctly summarized the nomenclatural consequences for those who would separate them:

In our opinion, the group with long lower mandibles and those with short lower mandibles may well be considered as congeneric. If it is desired to separate them generically then the former will require a new generic name and the latter (heretofore known as *Heterorhynchus*)] will have to be called *Hemignathus*, since the two groups, as named heretofore, have the same type as designated by Gray and Lafresnaye. Rothschild's arguments [1893d:79] have no force under the rules of zoological nomenclature (Art. 30, II, g).

The message apparently never sank in. In the influential Check-list of Birds of the World, Greenway (1968), who must have forgotten what he had written previously, maintained *Hemignathus* and *Heterorhynchus* as separate subgenera within the genus *Hemignathus*, and then dutifully listed *H. lucidus* as the type for each! The equally influential Check-list of North American Birds (American Ornithologists Union 1983) is a later reference that acknowledges that these two generic-level taxa have the same type species.

So the fact remains that if one wishes to separate the akialoas nomenclaturally, a new generic-level name will be required. After an exhaustive search of the literature of Hawaiian birds, we found that there is no previously existing supraspecific name available that would be desirable to use. One very obscure name that still seems to be in limbo needs to be disposed of, however. This is the genus *Falcator* Temminck, 1821: 108, proposed in a footnote to an article otherwise totally unconnected to Hawaii: "Ce nouveau genre se compose des *Certhia pacifica*, *obscura*, *coccinea*, et *falcata* de Linn. Gmel."

G. R. Gray (1869), Giebel (1875), and Dubois (1901) all listed *Falcator* as a syn-

onym of *Drepanis* Temminck, 1820 (type *Certhia pacifica* Gmelin by designation of Gray, 1840), doubtless because it comprised the very same species that were included in that genus as proposed by Temminck himself (1820) the preceding year. The diligent Richmond (1908) uncovered the name *Falcator*, but merely listed the species included by Temminck without mentioning a type designation. Dubois (1901), by assigning all the other species originally included in *Falcator* to other genera, would have made *Certhia pacifica* the type of the genus by elimination, but this does not constitute type fixation (ICZN 1985: Article 69b). If *Falcator* were restricted to the Hawaii Akialoa, which is one of the included species, this could have very undesirable consequences if the akialoas were combined with practically any other taxon because the virtually unknown name *Falcator* would have priority over all genera of Drepanidini except *Drepanis* Temminck, 1820, and *Psittirostra* Temminck, 1820. To eliminate any potential problems that the name might thus cause, we formally designate *Certhia pacifica* Gmelin as the type species of *Falcator* Temminck, 1821, so that *Falcator* then becomes a pure objective synonym of *Drepanis* Temminck, 1820.

Dates of Publication of *Hemignathus* and *Heterorhynchus*

The competing generic and specific names *Hemignathus lucidus* Lichtenstein versus *Heterorhynchus olivaceus* Lafresnaye are each now usually cited with the date of 1839 (e.g. Greenway 1968). In attempting to resolve the nomenclature of this group it thus becomes important to try to determine why Lichtenstein's names have traditionally been given precedence and whether they actually have priority over those of Lafresnaye.

Lichtenstein's paper is in the Abhandlung of the Berlin Academy of Science for 1838, a serial that was traditionally published later than the year indicated. The an-

nouncement at the beginning of Lichtenstein's paper, which is mainly about California birds, states that it was read before the Academy on 27 June 1837. Hanna (1931) has pointed out that there was no meeting on that date and that the reading must have taken place on 25 May 1837. But Lichtenstein cannot have communicated anything about Hawaiian birds at that time because the collector Deppe, from whom he obtained them, did not return to his homeland until 1838, as stated elsewhere in the Lichtenstein paper (p. 448). Some early authors, however, have cited Lichtenstein's names as dating from 1838 or even 1837, both of which are shown here to be erroneous.

The introductory material at the front of the Abhandlungen for 1838 has a title page that is dated 1839 and contains an annual report that carries through to the end of 1838. The volume was issued in three separate sections: Physikalische (in which Lichtenstein's paper appeared); Mathematische, and Philologische und Historische Abhandlungen. Each of these parts has a separate title page, each of which is dated 1840. Thus the ostensible date of publication of Lichtenstein's paper is 1840, which Hanna (1931) thought to be correct. We have found no unequivocal evidence, such as library stamps, correspondence, or other archival sources that mention the receipt or appearance of this publication. We examined copies in the Vetenskaps Akademiens Bibliotek in Stockholm, the Linnean Society of London, the Smithsonian Institution, and the British Museum (Natural History) but none is stamped with a contemporary date of receipt. There is a pencilled annotation in the British Museum copy, however, to the effect that the paper by Lichtenstein (and three others mentioned) was published in 1839 and that the proper citation should be "1838 (1840) [1839]," meaning, we presume, that the volume is for 1838, with the ostensible date of 1840, but the actual publication date of 1839.

Enquiries made on our behalf at the Berlin Botanical Museum brought the response from the librarian there "Artikel ersch. 1840!" but with no further documentation (received in litt. from Harald Pieper, Kiel), so that this may have been based on the title page from the Physikalische Abhandlungen. What seems to be the most definitive source we have uncovered is an extensive review of the publication and contents of the Abhandlungen der Berliner Academie in the Isis von Oken (1844, Heft XI: columns 842–854) in which the years of appearance of the volumes is as follows: 1832=1834, 1833=1835, 1834=1836, 1835=1837, 1837=1839, 1838=1839, 1839=1841, 1840=1842, 1841=1843. Thus the volumes consistently ran two years behind except 1838, which supposedly appeared in 1839, with no volume being published in 1840. One wonders whether even this seemingly definitive indication of an 1839 publication date for the 1838 volume may be due to a misprint, as it seems unusual to have two volumes of this normally tardy serial appearing in the same year. One would assume that if the 1838 volume were indeed issued in 1839, it would have been late in the year.

We provisionally accept the 1839 date from the evidence of the review in Isis von Oken and the annotation in the British Museum copy, each of which could be equivocated. There is certainly no available evidence by which a more specific date can be refined, so that according to the rules of nomenclature (ICZN 1985: Article 21c) the date of Lichtenstein's paper must be fixed as the last day of the year—31 December 1839. Otherwise we must resort to the ostensible year of publication of 1840, likewise with the date of 31 December.

The Magasin de Zoologie, in which Lafresnaye's name *Heterorhynchus olivaceus* appeared, was issued in two series ("sections") of livraisons—the first for vertebrates and the second for invertebrates. The original wrappers for the first section that are bound with the volumes in the Smith-

sonian Institution Libraries have “Livraison.—Année 18” set in type, with the number of the livraison and the year being written in ink by hand. The numbers of the plates in each livraison were also indicated by hand beside the appropriate printed categories of mammals, birds, reptiles, and fishes. According to the wrappers, the text and plate (10) for *Heterorhynchus olivaceus* appeared in the sixth and final livraison for 1839, along with plates 7–9 of birds (all of Lafresnaye), and 11–19 of mammals. Lafresnaye’s plates and the recto pages of text bear the date 1839. Each of Lafresnaye’s contributions in the sixth livraison bears the date October 1839 on the verso, after his signature, but this is obviously the date the manuscripts were completed, because the seventh livraison, with the wrapper dated 1840, contains one plate (11) and text by Lafresnaye which still has October 1839 on the verso, but 1840 on the recto and the plate.

The only contemporary source that we have found that might bear on the date of issue of one of the livraisons for 1839 is a notice in the Edinburgh Journal of Natural History for February 1840, which states: “The 7th Number, for the year 1839, of this elegant work has just appeared, and is occupied with a description” by Geoffroy Saint-Hilaire of three new genera of birds from Madagascar. This is puzzling, because according to the wrappers in the copy we examined, that article was in the fifth livraison, not the seventh, the latter having the date 1840. An additional consideration is that the livraisons may not have been issued in sequence. In a card file concerning dates of publication that was assembled by C. W. Richmond in the Division of Birds, Smithsonian Institution, there is an otherwise undocumented note saying “Mag. de Zool. Livr. 1–15 1840—Livr. 17–18 1841.” Thus we have two extremely equivocal sources that suggest that the date of publication of *Heterorhynchus* may in fact be 1840.

Nevertheless, all references that we have

seen give the date of publication of *Heterorhynchus olivaceus* as 1839. The original description of *Ampelis* (= *Xipholena*) *lammellipennis* Lafresnaye, which immediately preceded that of *H. olivaceus* and was issued in the same livraison, is also always cited with the date 1839 (e.g., Sclater 1883; Hellmayr 1929). Therefore, in the absence of concrete evidence to the contrary, we consider that the year of publication of *Heterorhynchus olivaceus* must be taken as 1839, but in the absence of further evidence, its date of publication must also be fixed as 31 December of that year. Thus, for purposes of nomenclature, the names *Hemignathus* and *Heterorhynchus* are here regarded as having been proposed simultaneously so that their relative precedence must be determined according to the first reviser principle (ICZN 1985: Article 24).

Hemignathus has traditionally been given precedence over *Heterorhynchus* throughout the literature of Hawaiian birds. This doubtless arose largely through various authors incorrectly taking the date of publication of *Hemignathus* as being 1838 (e.g., Sharpe 1885). Gray (1841) appears to be the first author to have formally synonymized *Heterorhynchus* with *Hemignathus*, but he cannot be considered to be the first reviser because he gave the latter the publication date of 1838 and therefore did not regard the names as having been published simultaneously.

There are other historical reasons why *Hemignathus* was given precedence over *Heterorhynchus*. When Lafresnaye published his description of *Heterorhynchus olivaceus*, it apparently created bad blood between him and the naturalists of the voyage of the *Venus*, who had collected the species and had deposited specimens at the Paris museum in August 1839 (Neboux 1840). Lafresnaye (1840) protested that he had purchased his specimen from a dealer named Dupont (who we imagine had probably received material originating in the voyage of the *Venus* as well) and had been ignorant of

the fact that the museum had received the same species. He still maintained that the date of publication was October 1839, but went on to say that the ornithologist Natterer, when visiting Lafresnaye the previous month (October 1840), had informed him that the bird had already been described in Germany or Russia under a different generic name, which must be an allusion to the Lichtenstein publication. What Natterer's reasons were for thinking that Lichtenstein's publication had priority are no longer clear, there being now no copy of that volume of the *Abhandlungen* in the library in Vienna where Natterer worked (Ernst Bauernfeind, Naturhistorisches Museum Wien, in litt. 28 Dec 1994). It should be recalled that Lafresnaye was used to having his names pre-empted because, as Bangs (1930:152) has remarked:

Lafresnaye lived in the country, in those days a real journey away from Paris, and, therefore, was often just a little later than some one else in securing some new bird. Also, I fancy, published descriptions were slow in reaching him. Several times I have read a complaint to that effect written by him on a label.

This may explain why Lafresnaye himself may have been willing to relinquish further claim to the priority of his name.

Some years later, in the official report on the zoology of the voyage of the *Venus*, the old rivalry with Lafresnaye resurfaced when Prévost and des Murs (1849) obviously set out to administer the 'coup de grâce' to *Heterorhynchus*. They titled a separate section of their account of the birds of the voyage "Notice sur le Genre Hemignathe (*Hemignathus*, Lichtenstein), (1837). *Heterorhynchus* (La Fresnaye) 1839." Here (p. 183) they advance the 1837 date that that part of Lichtenstein's publication was read before the Academy, but then take Lafresnaye to task for having "forgotten" that *Hemignathus* had already been published in 1838 (pp. 185–186). And yet a bit further on they repeatedly give the publication date as 1839 (pp. 191–192), including in their account of the "Hémignathe brillant," where they list

Lafresnaye's citation after Lichtenstein's. This order of precedence has been followed ever since. Although it is not at all certain in which year Prevost and Des Murs (1849) actually believed *Hemignathus* to have been published, they are the first authors to associate it with the year 1839 and simultaneously to give it precedence over *Heterorhynchus*, so perhaps they can be considered first revisers.

Should our activity in this connection make us the first revisers, we follow tradition and accord precedence to *Hemignathus*. This has the unfortunate consequence of having this name, long associated with the akialoas when those birds were separated generically, attach to the nukupuus. But it has the advantage of conserving the well-known name *lucidus* Lichtenstein over the long unused name *olivaceus* Lafresnaye. Furthermore, the scanty and inconclusive evidence as yet available suggests that if further information regarding dates of publication should surface, *Hemignathus* is the name more likely to have actual priority.

The Name for the Akialoa of Oahu

G. R. Gray (1859:9), who long believed the Hawaii Akialoa to be the female of the Iwi, *Drepanis (Vestiaria) coccinea*, named a new species of drepanidine as *Drepanis (Hemignathus) ellisiana* based on four references, including Lichtenstein (1839), who had included a specimen from Oahu under the name of the Hawaiian bird, *H. obscurus* (Gmelin). As was later established, Gray's species was clearly a composite, as the other three references pertained to the bird from Hawaii (= *H. obscurus*). Nevertheless, Gray's intention should have been clear, as he gave the "habitat" of his new species as Oahu, and Lichtenstein's reference was the only one unequivocally linked to that island.

Wilson (1889), in his review of *Hemignathus*, described the Oahu species as *H. lichtensteini*, based on the same specimen in Berlin that was figured by Lichtenstein

(1839), but without reference to Gray's *H. ellisiana*. The following interchange between the two rival camps engaged in describing new Hawaiian birds at the end of the 19th century provided as much sound as light on the matter, but summarizes the opinions that have been expressed.

G. R. Gray, who in more than one case erroneously considered the green birds to be the females of the red, referred *H. obscurus* partly to the female of *Vestiaria coccinea*, partly to his *Drepanis ellisiana*, which, therefore, must rank as a synonym. Wilson & Evans (1892:68).

Mr. Wilson places Gray's *Drepanis ellisiana* as a synonym under *Hemignathus obscurus* (Gmel.), and gives as his reason that Gray partly referred *H. obscura* to the female of *Vestiaria coccinea* and partly to his *Drepanis ellisiana*. . . . This is entirely erroneous, and proves that Mr. Wilson misquoted Gray, for the latter states [1859:9] that *Certhia obscura*, Gm., is the female of *Vestiaria coccinea*, while *Certhia (Hemignathus) obscura* Licht. nec Gm., is his *Drepanis ellisiana*; therefore I regret to have to reduce Mr. Wilson's name, *Hemignathus lichtensteini*, to synonymic rank and to reinstate Gray's *ellisiana*. Rothschild 1893d:88.

Mr. Rothschild [ibid.] has referred this species to the "*Drepanis (Hemignathus) ellisiana*" of Gray [1859:9], which I have already correctly quoted as a synonym of *H. obscurus*. It is pretty clear that Mr. Gray never saw a specimen of either, and it is absolutely certain that three out of the four authorities cited by him refer to *H. obscurus*. Vieillot, the first of them, as I have already shown, figured [Audebert & Vieillot 1802: pl. 53] the very specimen, now at Liverpool, which was formerly in the Leverian Museum, and actually the type of Latham's description, on which was founded the *Certhia obscura* of Gmelin, and hence the *H. obscurus* of modern ornithologists. Similarly the bird figured in Ellis's unpublished drawings (no. 28), which from the name used by Gray is doubtless to be regarded as the type of his supposed species, is most unquestionably *H. obscurus*, as anyone who examines the drawing in the British Museum may satisfy himself. The last of the authorities cited by Mr. Gray is Cassin, and he quotes Peale as saying that the species he speaks of was obtained in "Hawaii only," and that according to his observations it did "not inhabit Oahu; it was accordingly also *H. obscurus*; and the mere fact of Mr. Gray's mistakenly referring Lichtenstein's figure, and assigning Lichtenstein's locality, to the so-called "*Drepanis (Hemignathus) ellisiana*" cannot remove the incontestable objection that his other references show it to be but

a synonym of *H. obscurus*. Wilson & Evans (1894: 65-66).

Both *ellisiana* and *lichtensteini* have continued to be used for the Oahu Akialoa, with the former generally being favored, but without any clear resolution of the matter. Because Gray's name *ellisiana* is a composite, its disposition must be determined by designation of a lectotype, which none of the authors quoted above really do. The fact has been overlooked that Gray himself appears to have resolved the matter long before, as in his Hand-list (Gray 1869:114) under *Drepanis ellisiana* he gave only the Lichtenstein reference, with "*obscura*, V. O. D. t. 53?" as a dubious synonym, the latter being a reference to Audebert & Vieillot (1802), which, as seen above, was shown by Wilson & Evans to refer to the Hawaii Akialoa. Incidentally, this reference (Gray 1869) shows that Bryan (1901:306, footnote) erred in considering Gray's original query (1859) by the Vieillot work to refer to the plate number rather than the identity of the species, which was Bryan's reason for favoring *lichtensteini*. Thus, we consider that Gray's (1869:114) subsequent action restricted his species *ellisiana* to Lichtenstein's (1839) description of a bird from Oahu, which his original designation of Oahu as the type locality also supports. In the event that others might consider that this still does not constitute proper selection of a lectotype, we specifically designate that of the four references originally given by Gray (1859), the lectotype is the bird from Oahu figured and described by Lichtenstein (1839). Therefore we use Gray's name *ellisiana*, with *H. lichtensteini* Wilson as a synonym, for the Oahu Akialoa.

The Name for the Akialoa of Kauai

The Kauai Akialoa has been widely but unjustly known under the name *Hemignathus procerus* Cabanis. The first specimens to be studied scientifically were collected by Valdemar Knudsen and sent to the Smith-

sonian Institution. They were described by Stejneger (1887), who, in the absence of comparative material, referred them to *Hemignathus obscurus*. On the basis of specimens he collected himself, Wilson (1889) differentiated the bird from Kauai and honored Stejneger's contribution by naming it *Hemignathus stejnegeri* in a publication issued 1 November 1889. In a postscript (p. 402), Wilson added: "Prof. Möbius [Director of the Royal Zoological Collection at Berlin] has also had the goodness to transmit two specimens of '*Hemignathus procerus*, Cab[anis]. n. spec.' I am not aware of any published description of this species; but the specimens sent seem to be immature males of that which I have above called *H. Stejnegeri*."

At the Berlin Museum, Jean Cabanis was not idle and proceeded to name the same taxon himself, based on the forementioned specimens from Kauai purchased from a dealer, J. Wentscher, on 2 June 1887, that were doubtless also collected by Valdemar Knudsen (Olson & James 1994a). Cabanis's description of *Hemignathus procerus* was published in the October 1889 issue of *Journal für Ornithologie*, a periodical that Cabanis initiated and edited for forty years. During that time the *Journal* was notorious for appearing considerably later than the stated date of publication, which gave rise to numerous complaints in a day when new taxa were being described at a rapid pace and the law of priority was respected. By 1876 (Anon. *Nature* 14:309) Cabanis was a "well-known sinner" at the "evil practice" of antedating his *Journal*, and he must have put this practice in effect at least as early as 1856 (Peters 1932). It continued for the rest of his tenure, despite continual protestations from his colleagues. In the present instance, the original wrappers (copy in Smithsonian Institution Libraries) show that the issue in which the name *Hemignathus procerus* was proposed could not have appeared before January 1890. In a review in which the problem of antedating the *Journal*

für Ornithologie is addressed at length (Anon. 1891, *Ibis*, ser. 6, 3:616), it was shown that the number in question was not received by the Zoological Society of London until 11 July 1890, long after Wilson's name had been published. In this connection, it is worth recording that Stejneger (1890), in a report that was issued 8 March 1890, referred two new specimens of Kauai Akialoa to Wilson's species *H. stejnegeri*, with no mention of *H. procerus*, so that Wilson's paper was obviously already at hand, whereas Cabanis's was not. Likewise, Wilson (1890:191) in the *Ibis* for April 1890 (received at the Smithsonian on 21 April) again states that he had not seen a description of *H. procerus*, which he regarded as "identical with *H. stejnegeri*."

Doubtless realizing at the time that his name stood to be forestalled, Cabanis (1890: 331) added a footnote to his description to the effect that the name *H. procerus* had first been published in the newspaper *Vossische Zeitung* for 14 September 1889. We can only speculate that he may have been comforted by the likelihood that few taxonomists would be able to check this obscure reference, for, as we shall see, the contents thereof would not have been regarded as enhancing either Cabanis's reputation or the validity of his name.

It is certain that Wilson had not seen the *Vossische Zeitung* when he wrote that "the species *is said* to have been described" therein (Wilson & Evans 1892:61, footnote—emphasis added). Furthermore, the carefully chosen wording employed in Wilson & Evans (1892:61) in relating the events surrounding the description of this bird make it clear that Cabanis had exercised himself considerably to attach his own name to the Kauai Akialoa:

As the result of inquiry regarding the various species of the genus in the Berlin Museum, information was received through Professor Möbius that Professor Cabanis had come to a similar conclusion [that the Kauai birds were distinct from *H. obscurus*] on inspection of the specimens there, and had forestalled

my proposed title by a few weeks; so that I must at once acknowledge his activity in securing priority for his name *H. procerus*.

This concession of priority to *H. procerus* can only have been on the strength of Cabanis's citation of the Vossische Zeitung article, because it must have been well known at the time that the description in Journal für Ornithologie was published after Wilson's name had appeared. Yet if any subsequent researcher availed himself of the newspaper article, he kept his knowledge to himself. We were able to obtain a photocopy of the page containing the first use of the name *Hemignathus procerus*, which appeared in No. 429 of Vossische Zeitung, dated 14 September 1889, in a notice entitled "Allgemeine deutsche ornithologische Gesellschaft," being the minutes of the meeting of that society held 9 September 1889. The pages are unnumbered, but the notice occupies about two-thirds of the middle column of the page on which it occurs and is initialled "P. M.," for Paul Matschie, who was secretary of the D.O.G. from 1894 to 1907 (Prestwich 1958). The text of the portions of this notice in the original German and in English translation that pertain to Cabanis's discussion of Hawaiian birds follows in its entirety.

Herr Prof. Dr. J. Cabanis beschrieb eine neue Abart eines merkwürdigen Vogels von den Sandwichinseln. 1837 hatte der bekannte Botaniker Doppe [sic], der lange in Mexiko gesammelthatte, einige merkwürdige kleine, sehr krummschnäblige Vögel mitgebracht, deren feuerrothe Federn den Eingeborenen zur Anfertigung von Mänteln dienen. Die Thierchen haken von unten mit den fast halbkreisförmigen Schnabel in den Kelch der Blüten, um so zu den Dem Blüthensaft nachgehenden Insekten zu gelangen. Die Sandwichinseln scheinen, ähnlich wie Neuzeeland, Madagaskar und Australien, einen eigenen Schöpfungsheerd zu bilden und weisen ganz wunderbare Vogelformen auf. Herr Cabanis nannte die vorliegende Art *Hemignathus procerus*.

Herr Prof. Dr. J. Cabanis described a new variety of a remarkable bird from the Sandwich Islands. The well-known botanist Doppe [sic = Deppe], who was collecting for a long time in Mexico, brought along, in 1837, a few remarkable small birds with a strongly

curved beak, which provide the aboriginals with bright red feathers that are used for making cloaks. The creatures peck the calyx of blossoms from below with their almost semicircular beak to reach the nectar-seeking insects. The Sandwich Islands, like New Zealand, Madagascar and Australia, appear to constitute a separate center of creation and show wonderful forms of birds. Herr Cabanis called the species in question *Hemignathus procerus*.

Cabanis's claim to priority for *H. procerus* based on the above notice thus falls to the ground. Probably through Matschie, Cabanis's message had become at best garbled, with some of his introductory remarks about drepanidines being combined with the mention of his new name. The only bird described here possessed a "strongly curved beak" and bright red feathers, which can only apply to the Iiwi, *Vestiaria coccinea* (Forster). Furthermore, the mention of Deppe is irrelevant to the description of a bird from Kauai, because Deppe collected only on Oahu (Olson & James 1994a). By strict application of the rules of nomenclature, *Hemignathus procerus* Cabanis (in Matschie 1889) could be considered a junior synonym of *Certhia coccinea* Forster, 1781. Nevertheless, because this was clearly not Cabanis's intent, a more charitable assessment would be to regard the first use of *Hemignathus procerus* as a nomen nudum. It is also a nomen nudum as published by Schalow on or after 7 November 1889, in another account of the meeting of the Gesellschaft (Schalow 1889). As we have seen, it was also published twice as a synonym by Wilson (1889, 1890), and only months later was the name *H. procerus* ever associated with a legitimate description. Wilson's name *Hemignathus stejnegeri* clearly has priority over *H. procerus* Cabanis and we have reverted to it.

The Resulting Nomenclature of Akialoas and Nukupuus

The nukupuus consist of two very distinct species (Olson & James, 1994b), the Nukupuu proper (*Hemignathus lucidus*), and

the Akiapolaau (*Hemignathus wilsoni*). There are three named taxa of the former that are now considered to be subspecies of a single species, a treatment for which we can as yet offer no contrary evidence, as the only stated differences are minor plumage variations in adult males, and there is some doubt that a specimen of adult male even exists for the Oahu bird (there may be size differences between the forms, however—Thane Pratt, in litt.). Pending more detailed revisionary work we continue to rank these taxa as subspecies.

Hemignathus Lichtenstein

Hemignathus Lichtenstein, 1839 (31 December). Type, by subsequent designation (Gray 1841), *Hemignathus lucidus* Lichtenstein. The name has precedence over *Heterorhynchus* Lafresnaye according to the first reviser principle.

Heterorhynchus Lafresnaye, 1839 (31 December). Type, by monotypy, *Heterorhynchus olivaceus* Lafresnaye 1839 = *Hemignathus lucidus* Lichtenstein.

Hemignathus lucidus lucidus Lichtenstein

Oahu Nukupuu

Hemignathus lucidus Lichtenstein, 1839 (31 December):451. The name has precedence over *Heterorhynchus olivaceus* Lafresnaye according to the first reviser principle.

Heterorhynchus olivaceus Lafresnaye, 1839 (31 December):text accompanying plate 10.

Distribution and status.—Island of Oahu, extinct, evidently fairly abundant in 1837 but not collected thereafter.

Hemignathus lucidus hanapepe Wilson

Kauai Nukupuu

Hemignathus hanapepe Wilson, 1889:401.

Distribution and status.—Kauai, where

now presumed extinct, there having been no sightings since the 1970's.

Hemignathus lucidus affinis Rothschild

Maui Nukupuu

Hemignathus affinis Rothschild 1893a:112.

Distribution and status.—Known historically only from the upland forests of Maui, where it may still exist in extremely low numbers.

Hemignathus lucidus subsp. indet.

A historic specimen of this species, of indeterminate race, was collected on the island of Hawaii by the U.S. Exploring Expedition in 1840 or 1841 (Olson & James 1994b), but the species was never again taken on that island. A fossil almost certainly of this species was also recovered from sand dune deposits on Molokai (Olson & James 1994b).

Hemignathus wilsoni (Rothschild)

Akiapolaau

Hemignathus olivaceus.—Wilson, 1889 (nec *Heterorhynchus olivaceus* Lafresnaye—Wilson was the first to recognize this species but erred in thinking that Lafresnaye's name applied to it).

Heterorhynchus wilsoni Rothschild, 1893d: 95 (key), 97.

Hemignathus munroi Pratt, 1979b:1581 (new name for *Heterorhynchus wilsoni* Rothschild, 1893d, preoccupied by *Himatione wilsoni* Rothschild, 1893c, if these taxa are regarded as congeneric).

Distribution and status.—Known only from the island of Hawaii, where it is considered endangered but is locally distributed in fair numbers.

As we have detailed above, a new generic name is needed for the akialoas. Because there has already been so much nomenclatural confusion generated with regard to

these birds, we propose to use the Hawaiian name, *akialoa*, which is the only name now in use for these birds that conveys an unequivocal meaning, as a formal generic name. The four historically known taxa of *akialoa*s were treated as full species in the early literature, but have also been listed as subspecies of a single species (e.g., Bryan & Greenway 1944). Amadon (1950) divided them into two species, keeping the Kauai birds separate because of their large size and treating the birds of Oahu and Lanai (known from a total of 5 specimens) as subspecies of *obscurus* of Hawaii. We find that the birds of Oahu and Lanai are closer in size to those of Kauai, whereas *obscurus* of Hawaii is distinctly smaller than any of the others. The amount of variation between the four populations seems too great to be encompassed by a single species, but it is not yet clear how many species should be admitted, nor what the contents of each should be. Furthermore, we now know that the historically known *akialoa*s were sympatric with another fossil species at least on Kauai and Oahu (James & Olson, 1991), two fossil species of *akialoa* appear to have been sympatric on Maui (James & Olson, unpublished data.), and yet another unnamed large species was sympatric with *obscurus* on Hawaii (unpublished data). Until these systematic questions can be resolved, for nomenclatural purposes, we provisionally treat each taxon of *akialoa* as though specifically distinct.

Akialoa, new genus

Type species.—*Certhia obscura* Gmelin, 1789.

Etymology.—The Hawaiian name for these birds. Hawaiian words do not have gender but as the present name ends in “a” we arbitrarily treat it as feminine. Of the trivial epithets now in use, this effects the spelling only of the type species, whose original name, *Certhia obscura*, is feminine in any case.

Included species.—The following are the new combinations resulting from the introduction of the new generic name, with their principal synonyms:

Akialoa obscura (Gmelin),
new combination

Hawaii *Akialoa*

Certhia obscura Gmelin, 1789:470.

Distribution and status.—First collected on the third voyage of Captain James Cook in 1779 near Kealakekua Bay, island of Hawaii (Medway 1981). It was collected rather frequently on that island in the 19th century but became extinct about 1900 (Scott et al. 1986).

Akialoa lanaiensis (Rothschild),
new combination

Maui Nui *Akialoa*

Hemignathus lanaiensis Rothschild, 1893b:
24.

Distribution and status.—Known from three skin specimens taken in 1892 on the island of Lanai; never taken again. Extinct. Fossils of *akialoa*s, most likely of this taxon, have been collected on Molokai and Maui (Olson & James 1982, James & Olson 1991 and unpublished data).

Akialoa ellisiana (Gray), new combination

Oahu *Akialoa*

Drepanis (Hemignathus) ellisiana Gray,
1859:9.

Hemignathus lichtensteini Wilson, 1889:
401.

Distribution and status.—This taxon was long believed to be known only from the holotype in the Berlin Museum collected in the Nuuanu Valley, Oahu, in January 1837 by Ferdinand Deppe (Olson & James 1994a). We have identified a second specimen in the collections of the Philadelphia Academy

taken at the same time and place by J. K. Townsend. The species was not encountered on Oahu after 1837 and is now extinct.

Akialoa stejnegeri (Wilson),
new combination

Kauai Akialoa

Hemignathus stejnegeri Wilson, 1889:400.
Hemignathus procerus Cabanis, 1890:331.

Distribution and status.—Known from many specimens taken on Kauai in the 19th century. The last specimen was obtained in July 1960 (Richardson & Bowles 1964), the last observation was in 1965, and the species is now considered to be extinct (Scott et al. 1986).

Akialoa upupirostris (James & Olson),
new combination

Hoopoe-billed Akialoa

Hemignathus upupirostris James & Olson,
1991:60.

Distribution and status.—Not known historically. The species was described from Holocene fossils from Makawehi dunes, Kauai, and from Barbers Point, Oahu.

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Literature Cited

- Amadon, D. 1950. The Hawaiian honeycreepers (Aves, Drepaniidae).—*Bulletin of the American Museum of Natural History* 95:151–262.
- American Ornithologists' Union. 1983. Check-list of North American birds. Sixth ed. American Ornithologists' Union, [Washington, D.C.], 877 pp.
- Audebert, J. B., & L. P. Vieillot. 1802. Oiseaux dorés ou a reflets métalliques. Vol. 2. Histoire naturelle et générale des grimpeaux et des oiseaux de paradis. Imprimerie de Crapelet, Paris, 164 pp.
- Bangs, O. 1930. Types of birds now in the Museum of Comparative Zoölogy.—*Bulletin of the Museum of Comparative Zoology* 70:149–426.
- Berger, A. J. 1981. Hawaiian birdlife. 2nd ed. University Press of Hawaii, Honolulu, 260 pp.
- Bryan, E. H., Jr., & J. C. Greenway. 1944. Contribution to the ornithology of the Hawaiian Islands.—*Bulletin of the Museum of Comparative Zoology* 94:77–142.
- Bryan, W. A. 1901. A key to the birds of the Hawaiian group.—*Memoirs of the Bishop Museum* 1:258–332.
- Cabanis, J. 1890. [Description of *Hemignathus procerus*].—*Journal für Ornithologie* 37 [for October 1889]:331.
- Dubois, A. 1899–1902. Synopsis avium. Nouveau manuel d'ornithologie. Part 1. H. Lamertin, Brussels.
- Giebel, C. G. 1875. Thesaurus ornithologiae. Vol. 2. F. A. Brockhaus, Leipzig, 787 pp.
- Gmelin, J. F. 1789. Systema naturae. Vol. 1, part 1. Georg. Emmanuel Beer, Leipzig, 500 pp.
- Gray, G. R. 1841. A list of the genera of birds, with their synonyma, and an indication of the typical species of each genus. Second ed. Richard & John Taylor, London, 115 pp.
- . 1859. Catalogue of the birds of the tropical islands of the Pacific Ocean in the collection of the British Museum. British Museum, London, 72 pp.
- . 1869. Hand-list of genera and species of birds, distinguishing those contained in the British Museum. Part 1. Accipitres, Fissirostres, Tenuirostres, and Dentiostres. British Museum, London, 404 pp.
- Greenway, J. C. 1968. Family Drepanididae. Pp. 93–103. *In* R. A. Paynter, Jr., ed., Check-list of birds of the world. Vol. 14. Museum of Comparative Zoology, Cambridge, Massachusetts, 433 pp.

- Hanna, G. D. 1931. Lichtenstein on California birds.—*Condor* 33:211–213.
- Hellmayr, C. E. 1929. Catalogue of birds of the Americas.—Field Museum of Natural History Zoological Series 13, part 6.
- ICZN. 1985. International code of zoological nomenclature. 3rd edition. International Trust for Zoological Nomenclature, London, 338 pp.
- James, H. F., & S. L. Olson 1991. Descriptions of thirty-two new species of birds from the Hawaiian Islands: Part II. Passeriformes.—*Ornithological Monographs* 46:1–88.
- Lafresnaye, F. de. 1839. [Description of *Heterorhynchus olivaceus*].—*Magasin de Zoologie* 1839 [Oiseaux]: plate 10, 2 unnumbered pages of text.
- . 1840. [Corrections and additions to Neboux 1840].—*Revue Zoologique* 1840:321–325.
- Lichtenstein, M. H. K. 1839. Beitrag zur ornithologischen Fauna von Californien nebst Bemerkungen über die Artkennzeichen der Pelicane und über einige Vögel von den Sandwich-Inseln.—*Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin* 1838:417–451.
- Mathews, G. M. 1930. *Systema avium Australasianarum*. A systematic list of the birds of the Australian region. Part 2. *British Ornithologists' Union*, London, pp. 427–1047.
- M[at]schie, P. 1889. Allgemeine deutsche ornithologische Gesellschaft [minutes of meeting of 9 September 1889].—*Vossische Zeitung* [Berlin] 429 [14 September]: unpaginated.
- Medway, D. G. 1981. The contribution of Cook's third voyage to the ornithology of the Hawaiian Islands.—*Pacific Science* 35:105–175.
- Neboux, A. S. 1840. Descriptions d'oiseaux nouveaux recuilles pendant l'expédition de la Vénus.—*Revue Zoologique* 1840:289–291.
- Newton, A. 1897. [Exhibit of holotype of *Heterorhynchus olivaceus* Lafresnaye].—*Proceedings of the Zoological Society of London* 1896:990–991.
- Olson, S. L., & H. F. James 1982. Prodomus of the fossil avifauna of the Hawaiian Islands.—*Smithsonian Contributions to Zoology* 365:1–59.
- . 1988. Nomenclature of the Kauai Amakihi and Kauai Akialoa (Drepanidini).—*Elepaio* 48(2):13–14.
- . 1991. Descriptions of thirty-two new species of birds from the Hawaiian Islands: Part I. Non-Passeriformes.—*Ornithological Monographs* 45:1–88.
- . 1994a. A chronology of ornithological exploration in the Hawaiian Islands, from Cook to Perkins. Pp. 91–102 *In* J. R. Jehl, Jr., & N. K. Johnson, eds., *A century of avifaunal change in western North America*.—*Studies in Avian Biology* 15.
- . 1994b. A specimen of Nuku pu'u (*Hemignathus lucidus*) from the island of Hawaii (Aves: Drepanidini).—*Pacific Science* 48:331–338.
- Peters, J. L. 1932. *Laterallus* Gray antedates *Creciscus* Cabanis.—*Proceedings of the Biological Society of Washington* 45:119–120.
- Pratt, H. D. 1979a. A systematic analysis of the endemic avifauna of the Hawaiian Islands. Unpublished Ph.D. dissertation, Louisiana State University, Baton Rouge, Louisiana, 228 pp.
- . 1979b. [Abstract]. A systematic analysis of the endemic avifauna of the Hawaiian Islands.—*Dissertation Abstracts* 40B:1581.
- . 1989. A new name for the Kauai Amakihi (Drepanidinae: *Hemignathus*).—*Elepaio* 49(3):13–14.
- Prévost, F., and O. des Murs. 1849. Oiseaux. Pp. 177–284 *in* Abel du Petit-Thouars, ed., *Voyage Autour du Monde sur La Frégate La Venus Commandée par Abel du Petit-Thouars*. Zoologie. Mammifères, Oiseaux, Reptiles et Poissons. Paris: Gide et J. Baudry. [This account was first issued in 1849, and this particular volume, which constitutes Volume 5, part 1, of the "Voyage", was issued entire in 1855.]
- Prestwich, A. 1958. "I name this parrot . . ." Published by the author, London, 86 pp.
- Richardson, F., & J. Bowles. 1964. A survey of the birds of Kauai, Hawaii.—*Bernice P. Bishop Museum Bulletin* 227:1–51.
- Richmond, C. W. 1908. Generic names applied to birds during the years 1901 to 1905, inclusive, with further additions to Waterhouse's "Index Generum Avium".—*Proceedings of the United States National Museum* 35:583–655.
- Rothschild, W. 1892. Descriptions of seven new species of birds from the Sandwich Islands.—*Annals and Magazine of Natural History*, series 6, 10(55):108–112.
- . 1893a. Descriptions of three new birds from the Sandwich Islands.—*Ibis*, series 6, 5(17):112–114.
- . 1893b. [Description of *Hemignathus lanaiensis*].—*Bulletin of the British Ornithologists' Club* 1:24–25.
- . 1893c. [Descriptions of three new Hawaiian birds].—*Bulletin of the British Ornithologists' Club* 1(8):41–42.
- . 1893d. The avifauna of Laysan and the neighbouring islands: with a complete history to date of the birds of the Hawaiian possessions. Part 2. R. H. Porter, London, pp. 59–126.
- Schalow, H. 1889. Allgemeine deutsche-ornithologische Gesellschaft zu Berlin (Sitzung vom 9. September 1889).—*Die Schwalbe*. Mitteilungen des ornithologischen Vereines in Wien 13(41):533–535.

- Slater, P. L. S. 1883. Catalogue of the birds in the British Museum. Volume 14. British Museum, London.
- Scott, J. M., S. Mountainspring, F. L. Ramsey, & C. B. Kepler. 1986. Forest bird communities of the Hawaiian Islands: their dynamics, ecology, and conservation.—*Studies in Avian Biology* 9:1–431.
- Sharpe, R. B. 1885. Catalogue of the birds in the British Museum. Vol. 10. British Museum, London, 682 pp.
- Stejneger, L. H. 1887. Birds of Kauai Island, Hawaiian Archipelago, collected by Mr. Valdemar Knudsen, with descriptions of new species.—*Proceedings of the United States National Museum* 10:75–102.
- . 1890. Notes on a third collection of birds made on Kauai, Hawaiian Islands, by Valdemar Knudsen.—*Proceedings of the United States National Museum* 12 [for 1889]:377–386.
- Temminck, C. J. 1820. *Manuel d'ornithologie*. Second ed. Vol. 1. H. Cousin, Paris, 439 pp.
- . 1821. Account of some new species of birds of the genera *Psittacus* and *Columba* in the museum of the Linnean Society.—*Transactions of the Linnean Society of London* 13:107–130.
- Wilson, S. B. 1889. On three undescribed species of the genus *Hemignathus*, Lichtenstein.—*Annals and Magazine of Natural History*, series 6, 4:400–402.
- . 1890. On some birds of the Sandwich Islands.—*Ibis*, series 6, 2(6):170–196
- , & A. H. Evans. 1890–1899. *Aves Hawaiianes: the birds of the Sandwich Islands*. R. H. Porter, London, 257 pp.